

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the above amendments and the following remarks, is respectfully requested.

Claims 21-24 are pending in this application. Claims 21-24 are amended for clarity. No new matter has been added.

In the outstanding Office Action, Claims 21 and 23 were rejected under 35 U.S.C. §112, first paragraph; and Claims 21-24 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. 2004/0002364 (Trikkonen) in view of U.S. 2003/0125040 (Walton).

As to the rejection under 35 U.S.C. §112, first paragraph, the claims and specification are amended herewith for clarity regarding the weights applied to the information signals. A brief introduction to weighting signals is discussed in the specification from paragraphs [0005] to [0014] of the filed application, with further details described from paragraphs [0056] to [0059] and paragraphs [0096] to [0100]. Further description of the weight information and weighting applied to the information signals is shown in Fig. 26, specifically S704 where terminal B notifies (control information) terminal A of a transmission beam to be used with a control signal, and upon receipt of the control signal, the terminal A selects a transmission beam to be used and send an information signal to the terminal B - S705. Therefore, it is respectfully submitted the claims comply with 35 U.S.C. §112, first paragraph, and the amendments to the claims and the specification submitted herewith do not include new matter and should be entered.

As to the rejection under 35 U.S.C. §103(a), Trikkonen describes a wireless system which transmits information between n transmitter antennas and m receiver antennas.¹ As noted in Claims 19 and 21-22 of Trikkonen, information sent by an antenna includes a weighting factor applied thereto and a beam forming circuit is arranged to weight signals to

¹ Trikkonen, Abstract, Fig. 2.

be transmitted by different antennas, wherein the signals are weighted in accordance with the wireless environment between the transmitter and the receiver.

Specifically, Trikkonen describes a weight factor $w(t)$ which is a complex weight factor, which may be different for different antenna array elements.² However, Trikkonen merely describes that weights are provided to “different beams which take into account for example *the condition of the channel. The state of the channel can be derived from the open and/or closed loop measurements.*” Therefore, it is respectfully submitted Trikkonen does not disclose or reasonably suggest determining weights based on received control information. In particular, it is respectfully submitted Trikkonen does not disclose or reasonably suggest determining, based on a received control information, a first weight corresponding to a plurality of antennas for one of a plurality of information signals modulated by a first modulation scheme and encoded by a first encoding method, and a second weight corresponding to a plurality of antennas for another one of the plurality of information signals modulated by a second modulation scheme and encoded by a second encoding method, as required by Claim 21 or 23.

The Office Action alleges paragraphs [0118], [0140], [0248], [0252], [0256], [0309] and [0322] of Trikkonen describe the above-noted features of Claims 21 and 23. Applicant respectfully disagrees.

The above-cited portions of Trikkonen merely describe aspects of varying weight in response to “conditions of the channel,” which can be “derived from [] open and/or closed loop measurements.”³ As noted in paragraph [0304] of Trikkonen, open loop measurements can be provided as parameters of “the number of antennas on the mobile station, the mobile station computational capacity limit, the requested quality of service, and the requested data rate.”

² Trikkonen, paragraph [0140].

³ Trikkonen, paragraph [0140].

On the other hand, Claims 21 and 23 both require first and second weights to be determined on the basis of received control information, and as recited in Claims 21 and 23,

wherein ***the control information comprises weight information on the first and second weights and a transmission format information***, on modulation scheme and encoding method, corresponding to the weight information, the modulation scheme and encoding method corresponding to the transmission format information being determined based on the signal quality calculated on the assumption that the output signals of the plurality of antennas are generated utilizing the weights corresponding to the weight information and the output signals are transmitted simultaneously.
[Emphasis added].

It is respectfully submitted Trikkonen fails to disclose or reasonably suggest such control information. In the rejection of Claims 22 and 24 on pages 7 and 10-11 of the Office Action, it is alleged “loop transmissions” of Trikkonen contain control information. Applicant respectfully disagrees.

Initially, it is unclear what the Office Action is relying upon in Trikkonen to describe “loop transmissions” because that term is not particularly used in Trikkonen. The term “loop” is only used in Trikkonen to describe open and closed loop measurements, as noted above. In this regard, the loop measurements do not include weight information, as required by Claims 21 and 23. Further, the loop measurements do not include transmission format information, as required by Claims 21 and 23, which indicates a modulation scheme and an encoding method.

Walton does not remedy the above-noted deficiencies of Trikkonen.

Therefore, for the reasons noted above, it is respectfully submitted the record has not clearly established that Claims 21-24 are obvious over a combination of Trikkonen and Walton and the rejection under 35 U.S.C. §103(a) should be withdrawn. Moreover, it is respectfully submitted the cited art fails to disclose or reasonably suggest determining weight information based on control information, as defined by the claims, and the claims are thus allowable over the cited art.

Consequently, it is respectfully submitted this application is in condition for allowance. Should the Examiner disagree, the Examiner is encouraged to contact the undersigned to discuss any remaining issues. Otherwise, a timely Notice of Allowance is respectfully requested.

Respectfully submitted,

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